

inSentry IO 2400

User's Manual

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Table of Contents

1. PREFACE	1
1.1 ABOUT THIS MANUAL	1
1.2 SAFETY PRECAUTIONS	1
2. GETTING STARTED	2
2.1 FEATURES	2
2.2 SYSTEM REQUIREMENTS	2
2.3 PACKAGE CONTENTS	3
2.4 HARDWARE OVERVIEW	4
3. INSTALLATION AND CONNECTION	5
3.1 CONNECT TO THE MAIN POWER	5
3.2 CONNECTING TO A NETWORK	6
3.3 LED INDICATORS	7
4. MANAGING INSENTRY IO 2400 VIA WEB BROWSER	8
4.1 MONITORING	8
4.1.1 SUMMARY	8
4.1.2 IDENTIFICATION	11
4.1.3 ALARM	12
4.2 CONFIGURATION	13
4.2.1 DIGITAL INPUT SETUP	13
4.2.2 ANALOG INPUT SETUP	14
4.2.3 DIGITAL OUTPUT SETUP	16
4.2.4 ALARM TRIGGER	18
4.3 SYSTEM	19
4.3.1 CONFIGURATION	19
4.3.2 DATE AND TIME	20
4.3.3 TRAP RECEIVER	22
4.3.4 EMAIL NOTIFICATION	23
4.3.5 EMAIL NOTIFICATION	24
4.4 SYSTEM	25

4.4.1	CONFIGURATION	25
4.4.2	CONTROL	26
4.4.3	ACCESS CONTROL	27
4.5	LOGS	28
4.5.1	HISTORY	28
4.5.2	AGENT EVENT	29
4.5.3	EVENT	30
4.5.4	CLEAR & SAVE	31
5.	<u>APPENDIX</u>	<u>32</u>
5.1	SPECIFICATIONS	32

1. Preface

1.1 About this Manual

This manual provides instructions for installing the **inSentry IO 2400** on your network and for configuring the network. It is suggested to read this manual according to the sequence of the Table of Contents in order to avoid any setting errors.

1.2 Safety Precautions

1. This equipment complies with FCC and CE requirements. In a normal commercial use environment this equipment has no harmful effects.
2. Do not attempt to disassemble the equipment in order to avoid electrical shock or irreparable damage to internal parts.
3. Do not place the equipment outdoors in rain or in locations with high humidity in order to protect electronic components from short circuit.
4. Installation and maintenance of this equipment should be handled by professional technicians.
5. Make sure the equipment and its accessories are secured properly to prevent it from falling to the ground and being damaged.
6. Use only the power adaptor and accessories included in the package, alternative brands may damage the equipment.
7. Follow the instructions in this manual to connect the power adaptor and avoid improper use of the equipment. Make sure all the cables are connected correctly before turning on the power.
8. Do not use any organic solutions or corrosive detergents to clean the exterior of the equipment. To clean the equipment, first turn off the power. Use a cloth that has been lightly dampened in water to clean the exterior.
9. Do not use the equipment in the following environments:
 - Humidity higher than 80%.
 - Temperature higher than 55°C or lower than 0°C.
 - Near objects which transmit strong electromagnetic waves (e.g. televisions or radios).
 - Locations subject to violent shaking.
 - Locations that are damp or that come in contact with water.

2. Getting Started

2.1 Features

- Real-time temperature/humidity and other environmental conditions monitoring
- Comprehensive environment conditions management and flexible configuration via Web Brower, NMS, Telnet, or SNMP
- Automatic event notification via E-mail and SNMP Trap
- Automatically assigned IP via DHCP or BOOTP
- System Security: IP-based filtering and password protection for operation and administration
- Support SSL V3 and SSH V1 protocol
- Automatically records and displays environment events, warning, and time stamps
- Configuration utility simplifies the firmware upgrade process
- Settable thresholds for all sensors
- System, data, and event logging features
- Auto-sense to works in the 10/100Mbps Fast Ethernet network environment
- Supports four digital-inputs for normal open/close sensors
- Supports four digital-outputs to trigger extended devices by events
- Supports four DC voltage/current configurable sensors
- Rack mountable
- Quick and easy installation (Hot-swappable)
- Address-specific IP security masks prevent unauthorized source from accessing inSentry IO 2400 through the network

2.2 System Requirements

Operating System: Windows 2000, XP, 2003, Vista

Internet Browser: Microsoft IE 6.0 or above, Firefox

Hardware (Recommended):

- CPU: Intel-C 2.0G,
- RAM: 1GB,
- Graphic card: 64MB

2.3 Package Contents

Make sure that your package has the following items. If any of items are missing or damaged, contact your nearest service center or vendor.

Item	Models/variants/notes
IP-based I/O controller	inSentry IO 2400
AC Adapter	100~240 V ; 50/60Hz
CD-ROM	Manual, QIG, MIB, Upgrade Tool
QIG	Quick Installation Guide
Terminal Block	RS-485(3 pin) x 1
	I/O (4 pin) x 8



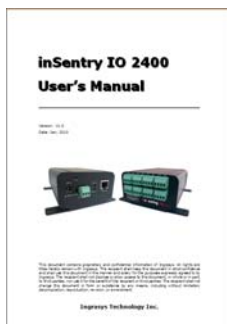
inSentry IO 2400



AC adapter



CD-ROM with manual
and software



Quick Installation
Guide



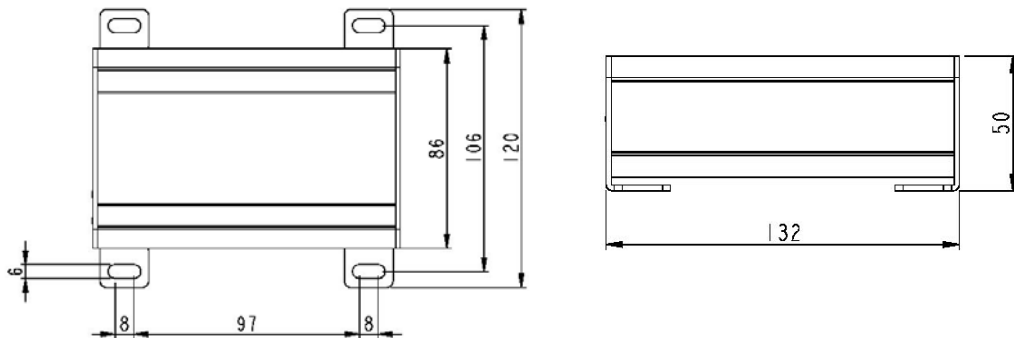
3 Pin Removable
Terminal Block



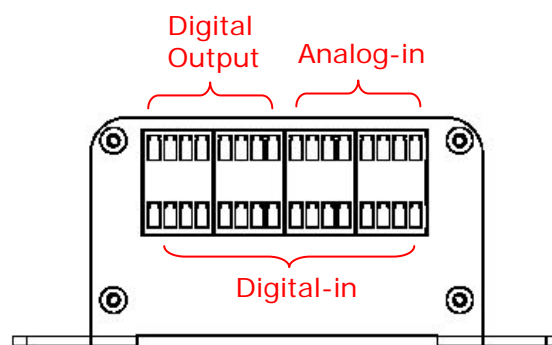
4 Pin Removable
Terminal Block

2.4 Hardware Overview

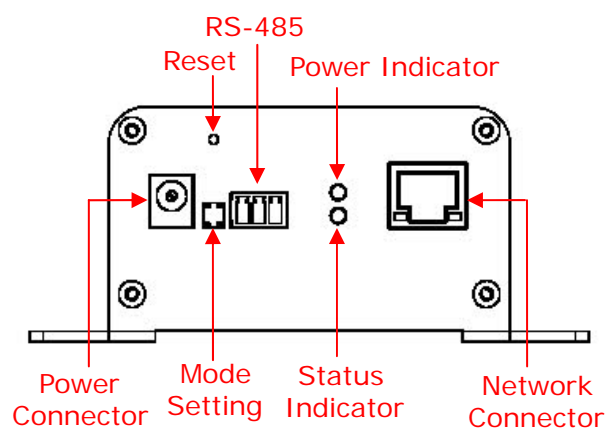
inSentry IO 2400 Dimensions



inSentry IO 2400 Front View



inSentry IO 2400 Rear View

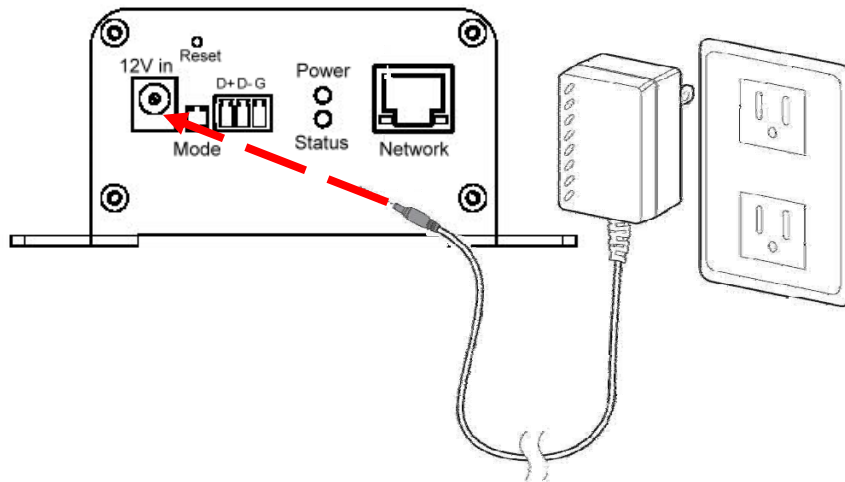


3. Installation and Connection

To install the inSentry IO 2400 on a network and change its configuration, you need a workstation running Microsoft Windows (2000, XP or later) and connect the inSentry IO 2400 to LAN.

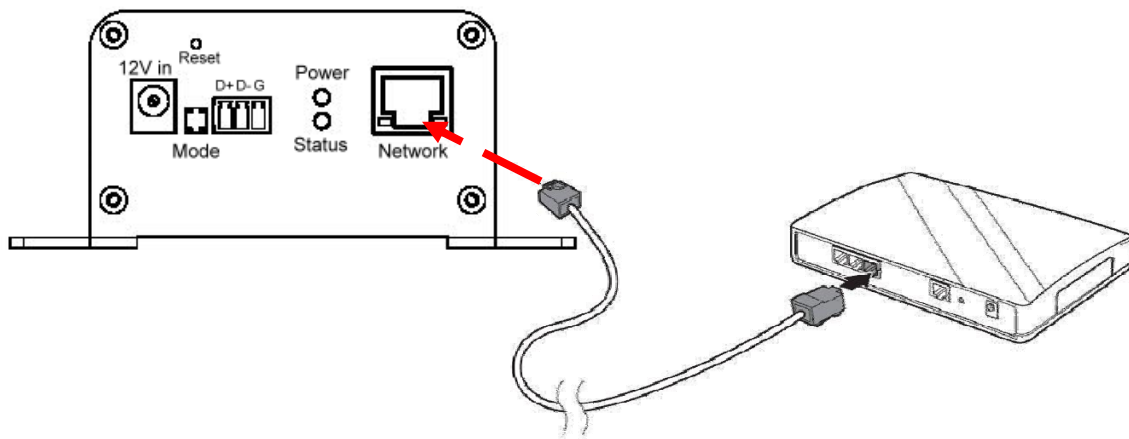
3.1 Connect to the main power

Connect the DC output plug to the power connector on the inSentry IO 2400, and connect the AC adaptor to a mains power outlet.



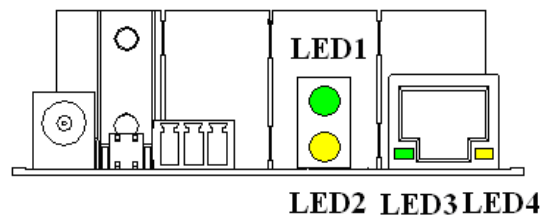
3.2 Connecting to a Network

The inSentry IO 2400 can be connected to an Ethernet network with a RJ-45 cable as shown below. Connect the inSentry IO 2400 to an Ethernet hub or switch with a RJ-45 cable.



3.3 LED indicators

Back view of inSentry IO 2400 :



LED Definition :

	LED1	LED2	LED3	LED4
Green	Power		LAN 100M	
Yellow		Status		LAN 10M

1. LED of Power and Status

Type	Power	Status	Function
1	ON	--	Power ON
2	ON	Flashing	Alarm active
3	OFF	Flashing	Serial upgrade mode
4	ON	ON	Hardware error
5	Two LEDs flashing alternatively		Auto-diagnostic Mode

2. LED of LAN

Type	Green	Yellow	Function
1	OFF	OFF	Ethernet Disconnect
2	OFF	ON	Ethernet 10 Ready
3	ON	OFF	Ethernet 100 Ready
4	Flashing	OFF	Ethernet 100 Traffic
5	OFF	Flashing	Ethernet 10 Traffic

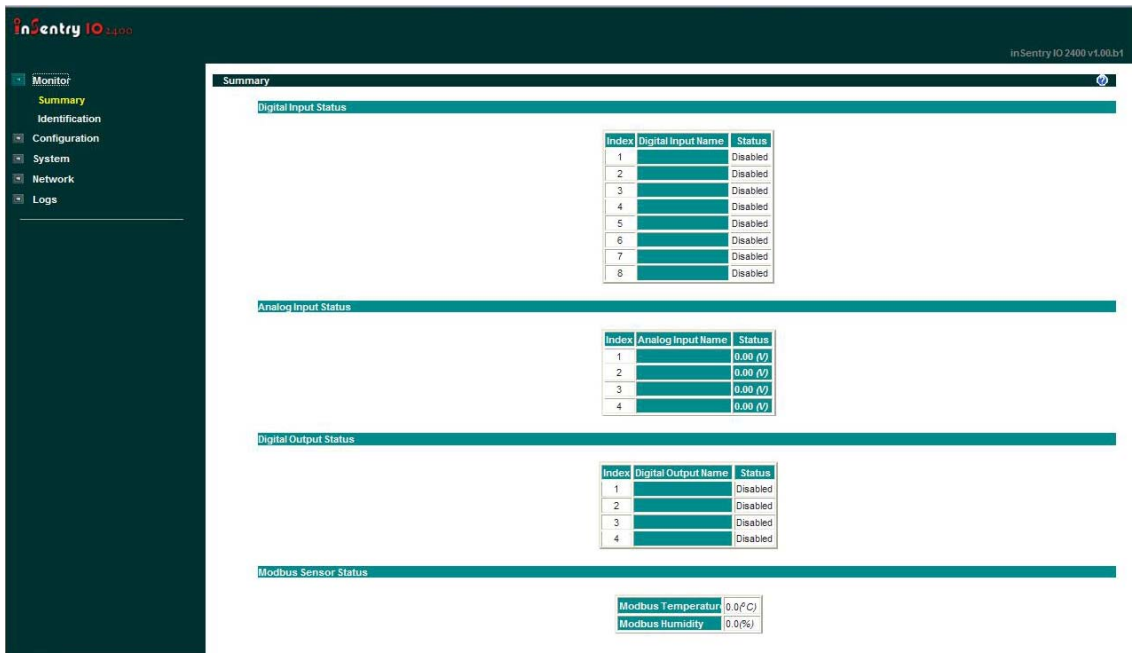
4. Managing inSentry IO 2400 via web browser

4.1 Monitoring

There are three sub-menus, Summary, Identification, and Alarm under Monitoring. The Summary page displays the information of inSentry IO 2400 and all the sensors that connected to inSentry IO 2400. This page is the default page when user first enters inSentry IO 2400 Web pages. This page will refresh automatically. All the information in the Summary and Identification page is read only.

4.1.1 Summary

This page gives a snapshot of all inSentry IO 2400 parameters; the parameters will be updated automatically every 10 seconds.(default)



The screenshot shows the inSentry IO 2400 web interface. The left sidebar contains a menu with options: Monitor, Summary (selected), Identification, Configuration, System, Network, and Logs. The main content area is titled 'Summary' and displays four sections of sensor data:

- Digital Input Status:** A table with 8 rows, each showing an Index (1-8), a Digital Input Name (all empty), and a Status (all 'Disabled').
- Analog Input Status:** A table with 4 rows, each showing an Index (1-4), an Analog Input Name (all empty), and a Status (all '0.00 A').
- Digital Output Status:** A table with 4 rows, each showing an Index (1-4), a Digital Output Name (all empty), and a Status (all 'Disabled').
- Modbus Sensor Status:** A table with 2 rows, each showing a Modbus Sensor Name (all empty) and a Status (all '0.00 A').

- **Sensor information section:** The inSentry IO 2400 can connect with sensors. The first table shows the information of 8 digital-inputs and the other table shows the status of other sensors. All the information in this section is read only.

Table 1: Information of Digital Input		
Item	Parameter	Attribute & Behavior
1	Index	<ul style="list-style-type: none"> Index of the DI 1~8
2	Digital Input Name	<ul style="list-style-type: none"> This shows the user-defined name of the sensor which connected to the Digital Input.
3	Status	<ul style="list-style-type: none"> This field shows the current status of the sensor which connected to the Digital Input. There are three values as below: <ul style="list-style-type: none"> A. Active: The Digital Input is triggered. B. Inactive: The Digital Input is not triggered. C. Disabled: The Digital Input is disabled in the Configuration page.

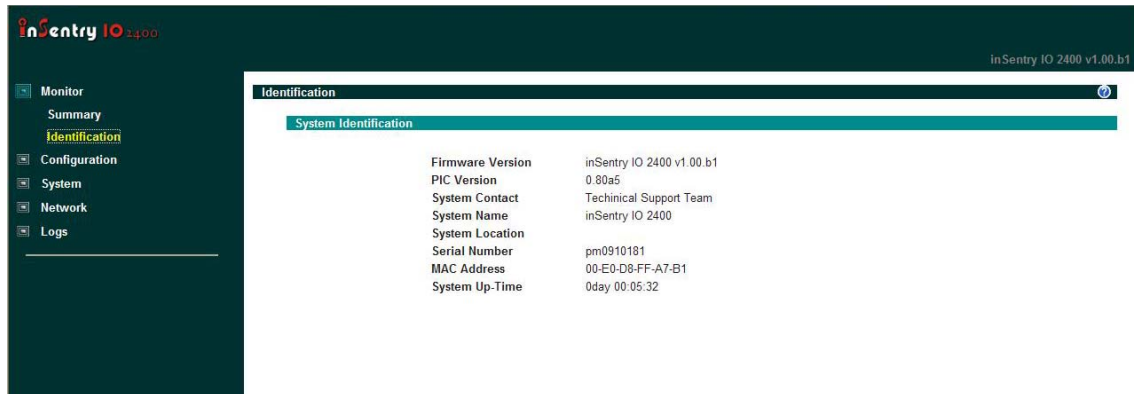
Table 2: Information of Analog Input		
Item	Parameter	Attribute & Behavior
1	Index	<ul style="list-style-type: none"> Index of the AI 1~4
2	Analog Input Name	<ul style="list-style-type: none"> This shows the user-defined name of the device or sensor which connected to the Analog Input.
3	Status	<ul style="list-style-type: none"> This field shows the reading of the device or sensor which connected to the Analog Input.

Table 3: Information of Digital Output		
Item	Parameter	Attribute & Behavior
1	Index	<ul style="list-style-type: none"> • Index of the DO 1 ~ 4
2	Digital Output Name	<ul style="list-style-type: none"> • This shows the user-defined name of the device which connected to the Digital Output.
3	Status	<ul style="list-style-type: none"> • This field shows the current status of the device which connected to the Digital Output. • Common status: <ul style="list-style-type: none"> A. Disabled: It's disabled in the Configuration page. B. In addition to Disabled, there are two statuses, On(Close) or Off(Open). If it's not triggered by any event (the status is same as the Normal Start-up in Configuration of Digital Output page).

Table 4: Information of Modbus sensor (support GA1000 sensor only)		
Item	Parameter	Attribute & Behavior
1	Modbus Temperature	<ul style="list-style-type: none"> • This field shows the current temperature that the GA1000 detected.
2	Modbus Humidity	<ul style="list-style-type: none"> • This field shows the current humidity that the GA1000 detected.

4.1.2 Identification

This page provides the general inSentry IO 2400 identification information. All the information in this page is read only.



Item	Parameter	Attribute & Behavior
1	Firmware Version	<ul style="list-style-type: none"> This field shows the firmware version of the inSentry IO 2400 (Ex. <i>inSentry IO 2400 v1.00</i>)
2	PIC Version	<ul style="list-style-type: none"> This field shows the PIC version of the inSentry IO 2400 (Ex. <i>1.00</i>).
3	System Contact	<ul style="list-style-type: none"> This field shows the contact information of the inSentry IO 2400. This value shall be same as the System Contact in the Configuration page of System.
4	System Name	<ul style="list-style-type: none"> This field shows the name of the inSentry IO 2400. This value shall be same as the System Name in the Configuration page of System.
5	System Location	<ul style="list-style-type: none"> This field shows the location of the inSentry IO 2400. This value shall be same as the System Location in the Configuration page of System.
6	Serial Number	<ul style="list-style-type: none"> This field shows the serial number of the inSentry IO 2400 (Ex. <i>11141011003001</i>)
7	MAC Address	<ul style="list-style-type: none"> This field shows the MAC address of the inSentry IO 2400 (Ex. <i>00-E0-D8-FF-A7-B3</i>)
8	System Up-Time	<ul style="list-style-type: none"> This field shows the time passed since the inSentry IO 2400 boot-up.

4.1.3 Alarm

This page shows the number of current active alarms, alarm activation time, and alarm description. The function of Alarm Table shall behave as it been implemented in inSentry. All the information in this page is ready only and this page will refresh automatically.

Alarm table



Alarm Table

Number of Active Alarms 3

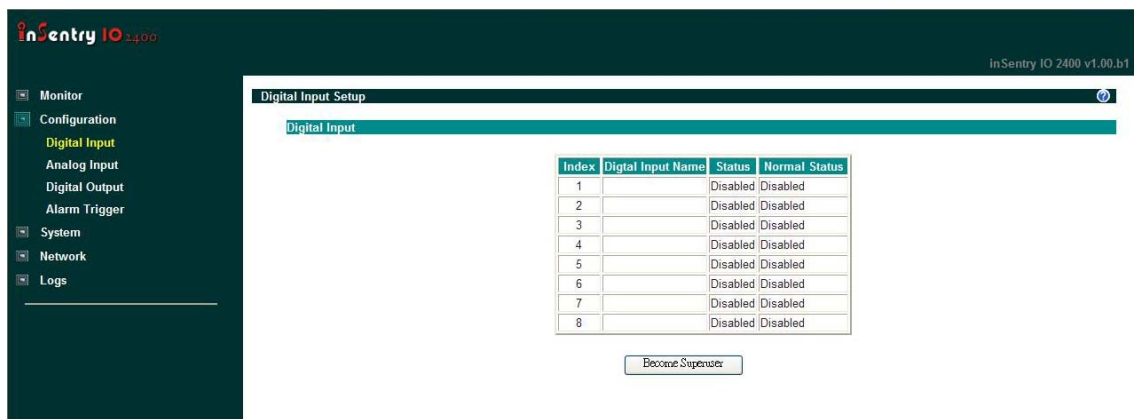
Alarm ID	Alarm Time	Alarm Description
3	01/01/1970 00:00:24	DI-3 activated
7	01/01/1970 00:18:47	DI-1 activated
8	01/01/1970 01:37:23	Voltage sensor is over its threshold

	Parameter	Attribute & Behavior
1	Number of Active Alarms	<ul style="list-style-type: none"> This row shows the number of current active alarms.
2	Alarm ID	<ul style="list-style-type: none"> This column shows the sequential number that indicates the sequence of alarm activation. This number will be reset after the inSentry IO 2400 is rebooted.
3	Alarm Time	<ul style="list-style-type: none"> This column shows the alarm activation time. The date/time is according to inSentry IO 2400 clock.
4	Alarm Description	<ul style="list-style-type: none"> This column shows the complete alarm description.

4.2 Configuration

The pages under this main menu are the configuration of Digital Input, Analog Input, Digital Output, and Alarm Trigger. All the devices or sensor that can be connected to inSentry IO 2400 are divided into four major groups: Digital Input, Analog Input, Digital Output, and Alarm Trigger.

4.2.1 Digital Input Setup



	Parameter	Attribute & Behavior
1	Index	<ul style="list-style-type: none"> The index number of the DI 1~8.
2	Digital Input Name	<ul style="list-style-type: none"> This shows the user-defined name of the sensor which connected to the Digital Input. Length: up to 31 characters.
3	Status	<ul style="list-style-type: none"> This field shows the current status of the sensor which connected to the Digital Input.
4	Normal Status	<ul style="list-style-type: none"> The Digital Input can be configured as "Disabled", "Normal Open" or "Normal Close". Drop-down list: "Disabled", "Normal Open" and "Normal Close".. Default value: "Disabled".

4.2.2 Analog Input Setup

- **Configuration:** This page allows the administrator to configure the settings of Analog Input sensor.

Configuration of Analog Input

Index	Analog Input Name	Mode	Set Point(Low)	Set Point(High)	Hysteresis	Calibration Offset
1		Voltage Mode	0	20	0	0
2		Voltage Mode	0	20	0	0
3		Voltage Mode	0	20	0	0
4		Voltage Mode	0	20	0	0

Sensor readings converting table

Index	Status	Unit	Measured		Reading	
			Base Scale	Max Scale	Base Scale	Max Scale
1	Disabled	V	0	0	0	0
2	Disabled	V	0	0	0	0
3	Disabled	V	0	0	0	0
4	Disabled	V	0	0	0	0

Become Supervisor

1. Configuration of Analog Input:

	Parameter	Attribute & Behavior
1	Index	<ul style="list-style-type: none"> The index number of the AI 1 ~ 4.
2	Analog Input Name	<ul style="list-style-type: none"> This shows the user-defined name of the device or sensor which connected to the Analog Input. Length: up to 31 characters.
3	Mode	<ul style="list-style-type: none"> The AI can be configured as "Voltage mode" or "Current Mode". Drop-down list: "Voltage mode" and "Current Mode". Default value: "Voltage mode"
4	Set Point (Low)	<ul style="list-style-type: none"> This field is for administrator to configure the threshold of Voltage/Current Sensor. The threshold of Analog Input will trigger an alarm, whenever the measurement is under the set point. The valid range for the Analog Input threshold setting is 0V to 15V or 4~20mA.
5	Set Point (High)	<ul style="list-style-type: none"> This field is for administrator to configure the threshold of Voltage/Current Sensor. The threshold of Analog Input will trigger an alarm, whenever the measurement is over the set point. The valid range for the Analog Input threshold setting is 0V to 15V or 4~20mA.

6	Hysteresis	<ul style="list-style-type: none"> The sensor value is usually floating around its threshold triggering multiple alarms. This field will help to prevent the alarm bouncing between active and inactive. E.g., if the Hysteresis is 2, and the low warning threshold set point is 16, the alarm will activate when the voltage is 16 and the alarm will last until the voltage is back to 18; if the high warning threshold set point is 30, the alarm will activate when the voltage is 30 and the alarm will last until the voltage is back to 28. Value range is from 0 to 9999. Default value: "0".
7	Calibration Offset	<ul style="list-style-type: none"> If the measurement value of a sensor doesn't, for whatever reason, comply with the actual voltage, the Calibration Offset setting can be configured to adjust the final value of the sensor. E.g., if a sensor reports 17V for a 18V, the user can configure the voltage offset as 1 so the sensor can then adjust its final value to 18V. Default value: "0".

2. Sensor readings converting table:

	Parameter	Attribute & Behavior
1	Index	<ul style="list-style-type: none"> The index number of the AI 1~4.
2	Status	<ul style="list-style-type: none"> The column allows administrator to Enable or Disable the sensor reading converting. Drop-down list: "Enabled" and "Disabled". Default value: "Disabled"
3	Unit	<ul style="list-style-type: none"> The Unit of the sensor measured. (Ex. Vol./ mA/ pH/ °C..)
4	Measure / Base Scale	<ul style="list-style-type: none"> The minimum voltage or current value of the sensor which connected to the AI. The value should be within the range of 0~15V or 4~20mA.
5	Measure / Max Scale	<ul style="list-style-type: none"> The maximum voltage or current value of the sensor which connected to the AI. The value should be within the range of 0~15V or 4~20mA.
6	Reading / Base Scale	<ul style="list-style-type: none"> The minimum reading which correspond to the minimum voltage or current value.
7	Reading / Max Scale	<ul style="list-style-type: none"> The maximum reading which correspond to the maximum voltage or current value.

4.2.3 Digital Output Setup

This page shows the status of devices and allows the user to configure the settings. There are three sections in this page, Status, Configuration, and Manual Control. Status section shows the current status of the device. Configuration allows the user to configure the device name and the normal status while system starts up. Manual Control allows the user to turn the device on or off manually.

The screenshot shows the 'Configuration of Digital Output' page in the InSentry IO 2400 interface. The page is divided into three main sections: Current Status, Configuration, and Manual control. Each section has a 'Become Supervisor' button.

Current Status: A table showing the status of four digital outputs.

Device	Status
Digital Output 1	Disabled
Digital Output 2	Disabled
Digital Output 3	Disabled
Digital Output 4	Disabled

Configuration: A table with three columns: Device, Device Name, and Normal Start-up.

Device	Device Name	Normal Start-up
Digital Output 1		Disabled
Digital Output 2		Disabled
Digital Output 3		Disabled
Digital Output 4		Disabled

Manual control: A table showing the manual control status of four digital outputs.

Device	Status
Digital Output 1	Turn Off
Digital Output 2	Turn Off
Digital Output 3	Turn Off
Digital Output 4	Turn Off

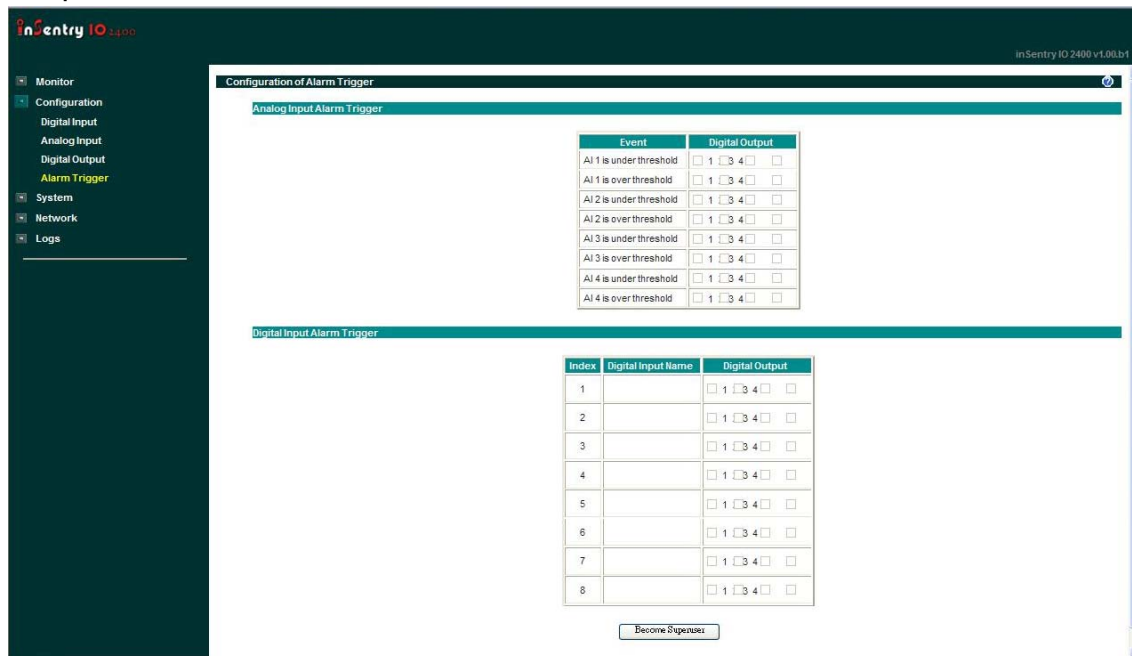
- **Current Status:** There are two columns in this section.
 - The first column shows the Digital Output 1 ~ 4.
 - The second column shows the current status of the devices.
- **Configuration:** The table in this section has three columns. However, by default, it shows only the first three columns. When user clicks "Show advanced parameters", the rest of two columns, Postpone and Extend, will show.
 - The first column, Device, has fixed value that represents the digital outputs. They are Digital Output 1 ~ 4.
 - The second column, Device Name, allows the user to configure the user-defined name of the device. The user-defined name will be shown on the Digital Output status in Summary page. The size is 31 characters.
 - The third column, Normal Start-up, allows the user to set

the normal status of the devices. There's drop-down list contained with three values, Disabled, On (Close), and Off (Open). This is the normal status of the devices while system starts up.

- **Manual Control:** This section allows the user to turn on or off the devices manually.

4.2.4 Alarm Trigger

This page is for administrator to configure the alarm trigger of digital outputs.



1. There are four digital outputs, Digital Output 1~4, to be triggered by 4 Analog Inputs events and 8 Digital Inputs.
2. Once the digital output is selected, the digital output will invert its current normal start-up status when event occurred.
3. Below is the list of the AI events that can trigger the outputs.

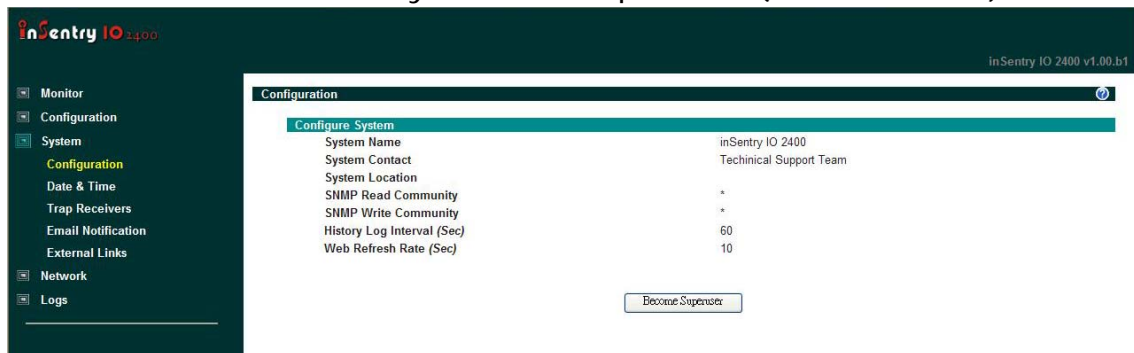
Item	Event
1	AI 1 is under threshold
2	AI 1 is over threshold
3	AI 2 is under threshold
4	AI 2 is over threshold
5	AI 3 is under threshold
6	AI 3 is over threshold
7	AI 4 is under threshold
8	AI 4 is over threshold

4.3 System

The pages under this main menu are the configuration of System, Date and Time, Trap Receiver, Email Notification and External Links.

4.3.1 Configuration

This page contains three groups, "Configure System", "Superuser User Name and Password", and "Control" group. Configuration of this page is allowed when the security level is "Superuser" (Administrator).



➤ Configure System

"System Name" → Size is 31 characters. Default value is "inSentry IO 2400".

"System Contact" → Size is 31 characters. Default value is "Technical Support Team".

"System Location" → Size is 31 characters. No default value.

"SNMP Read Community" → Size is 31 characters. Default value is "public".

"SNMP Write Community" → Size is 31 characters. Default value is "admin".

"History Log Interval (**Sec**)" → Unit is "Seconds". Default value is 60 seconds.

"Web Refresh Rate (**Sec**)" → Unit is "Seconds". Default value is 10 seconds.

➤ Superuser User Name and Password

"Superuser User Name" → Size is 31 characters. Default value is "inSentry IO 2400".

"Superuser Password" → Size is 31 characters. Default value is "admin".

"Confirm Superuser Password" → Size is 31 characters. The value should be the same as "Superuser Password"

➤ **Control**

There are two buttons in this group. One is "Reset to Default", and the other is "Restart System".

4.3.2 Date and Time

This page contains two groups, "Current Date and Time", and "Configure Date and Time" group. Configuration of this page is allowed when the security level is "Superuser" (Administrator).

➤ **Current Date and Time**

It will show the system Date and Time of inSentry IO 2400. For the System Time of inSentry IO 2400, it should be counted automatically.

➤ **Configure Date and Time**

There are three ways to set up the system date and time of inSentry IO 2400, "Synchronize with computer time", "Synchronize with NTP server", and "Set manually". The Default value is "Synchronize with NTP server".

✧ **Synchronize with computer time**

Edit of the "Computer Date" and "Computer Time" is not allowed. Both of the values should be gotten from the computer. The "Computer Time" should be counted automatically.

The size of "Computer Date" item is 10 characters, and the format is "dd/mm/yyyy".

The size of "Computer Time" item is 8 characters, and the format is "hh:mm:ss".

✧ **Synchronize with NTP server**

Selecting this way will synchronize the system date and time of inSentry IO 2400 from a NTP server. The size of "NTP Server Address" is 15 characters, and default value is "192.5.41.40". The "Time Zone" are as follows, and the default is "GMT+08 Beijing, Hong Kong".

✧ **Set Manually**

The size of "Date" item is 10 characters, and the format is "dd/mm/yyyy".

The size of "Time" item is 8 characters, and the format is "hh:mm:ss".

✧ **Date Display Format**

There are four formats, the drop-down list:

"mm/dd/yyyy", "dd/mm/yyyy", "yyyy-mm-dd", and "dd mm yyyy". The default value is "mm/dd/yyyy".

4.3.3 Trap Receiver

Configuration of this page is allowed when the security level is "Superuser"(Administrator). There are 8 trap receivers in the table.

The screenshot shows the 'SNMP Trap Receivers' configuration page in the inSentry IO 2400 web interface. The page title is 'SNMP Trap Receivers' and the version is 'inSentry IO 2400 v1.00.b1'. The left sidebar contains navigation links: Monitor, Configuration, System, Configuration, Date & Time, Trap Receivers (highlighted), Email Notification, External Links, Network, and Logs. The main content area displays a table titled 'TRAP Receivers Table' with the following data:

Index	NMS IP Address	Community	Trap Type	Severity	Description
1	0.0.0.0	*	None	Informational	
2	0.0.0.0	*	None	Informational	
3	0.0.0.0	*	None	Informational	
4	0.0.0.0	*	None	Informational	
5	0.0.0.0	*	None	Informational	
6	0.0.0.0	*	None	Informational	
7	0.0.0.0	*	None	Informational	
8	0.0.0.0	*	None	Informational	

Below the table is a button labeled 'Become Superuser'.

- **NMS IP Address**
Size is 15 characters. Default value is "0.0.0.0".
- **Community**
Size is 15 characters. Default value is "public", but it should always show "*".
- **Trap Type**
There are two selections in the drop-down list, one is "None", and the other is "inSentry IO 2400 Trap". Select "None", it means that it is no need to send trap. Select "inSentry IO 2400 Trap" will send trap to the specify NMS when there is alarm occurred.
- **Severity**
There are three kinds of trap severity, "Informational", "Warning", and "Severe". It defines that which level of trap should be sent when there is alarm occurred.
- **Description**
Size is 23 characters. No default value.

4.3.4 Email Notification

Configuration of this page is allowed when the security level is "Superuser" (Administrator). There are two groups in this page, one is "Email Configuration" group and the other is "Email Receivers Table".

Email Configuration

Mail Server	192.168.200.87
DNS Address	
Optional SMTP Username	*
Optional SMTP Password	*
Sender's Email Address	IOC2400@192.168.201.120
Mail Subject Prefix	
SMTP Reply to Address	IOC2400@192.168.201.120
SMTP Port Number	25
Mail Daily Status Report At (hh:mm)	00:00

Email Receivers Table

Index	Mail Account	Description	Mail Type	Event Level
1			None	Informational
2			None	Informational
3			None	Informational
4			None	Informational

Become Superser

➤ Email Configuration

Mail Server → Size is 31 characters, no default value. It accepts both host name and IP address.

DNS Address → Size is 15 characters, no default value.

Optional SMTP Username → Size is 31 characters, and no default value.

Optional SMTP Password → Size is 31 characters, and no default value. It always shows " * ".

Sender's Email Address → Size is 31 characters, and the default value is "IOC2400@154.218.192.168".

Mail Subject Prefix → Size is 31 characters, and no default value.

SMTP Reply to Address → Size is 31 characters, and the default value is "IOC2400@154.218.192.168".

SMTP Port Number → Size is 31 characters, and the default value is "25".

Mail Daily Status Report at (hh:mm) → Size is 5 characters; the default value is "00:00".

➤ Email Receivers Table

There are 8 email receivers in the table.

Mail Account → Size is 31 characters, and no default value.

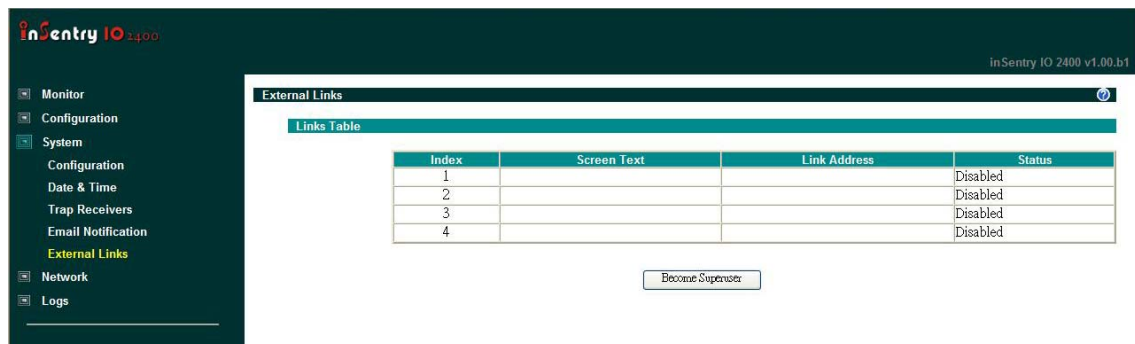
Description → Size is 31 characters, and no default value.

Mail Type → There are four mail types, "None", "Events", "Daily Status", and "Event/Status". If the setting is "None", it will not send mail when event occurred.

Event Level → There are three event level, "Informational", "Warning", and "Sever".

4.3.5 Email Notification

There are four external links in the table.



Screen Text → Size is 31 characters, and no default value.

Link Address → Size is 31 characters, and no default value.

Status → There is two kinds of status, "Enabled", and "Disabled". If the setting is "Enabled", the screen text will be shown on the main menu frame.

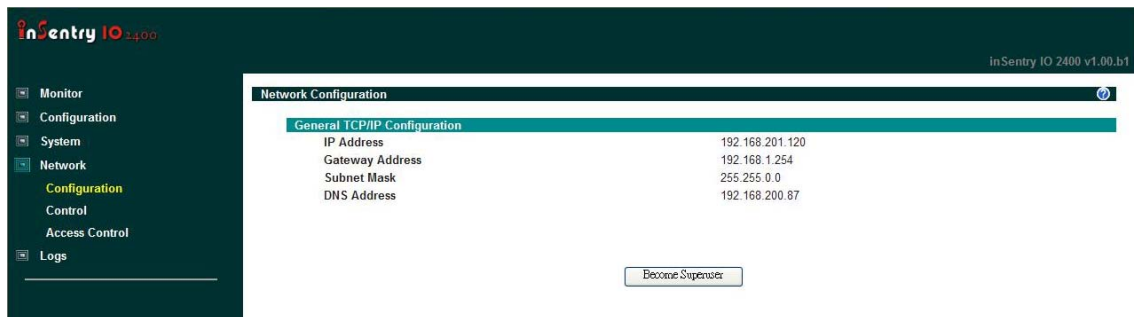
4.4 System

There are three sub-menus, Configuration, Control, and Access Control, under Network.

4.4.1 Configuration

Configuration of this page is allowed when the security level is "Superuser" (Administrator). If the user resets the Configuration to default, the Configuration of "IP Address", "Gateway Address" and "Subnet Mask" will also be kept.

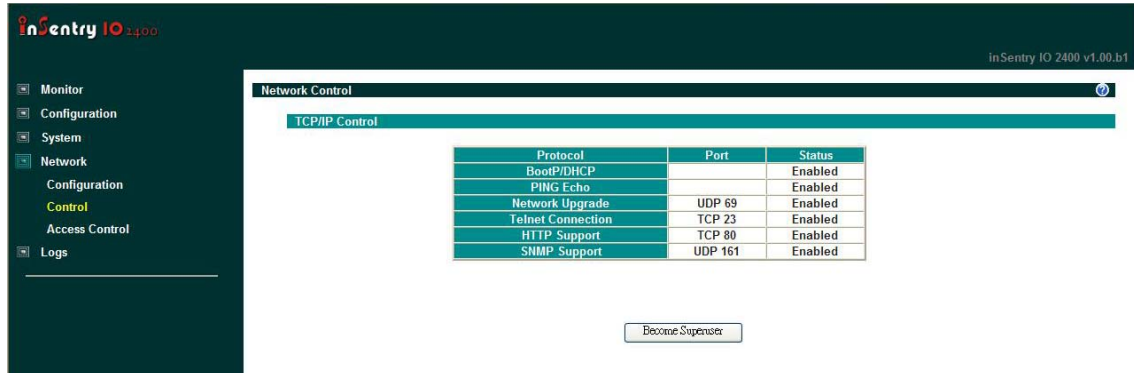
There three items in this page.



- **IP Address:** The IP address of inSentry IO 2400 is a dotted format. Default value is "172.17.x.y". Where x and y is dynamic according to the MAC address, and size is 15 characters
- **Gateway Address:** The IP address of the gateway is a dotted format. Default value is "0.0.0.0", and size is 15 characters.
- **Subnet Mask:** The subnet mask of inSentry IO 2400 is a dotted format. Default value is "255.255.0.0", and size is 15 characters.
- **DNS Address:** The DNS address of inSentry IO 2400 is a dotted format. Default value is "0.0.0.0", and size is 15 characters.

4.4.2 Control

This page lets the Superuser(Administrator) enable or disable the communication protocols available in the inSentry IO 2400, or alternatively configure the communication protocol with a different port number.



BootP/DHCP → Not allowed for change port, and the default status is "Enabled".

Ping Echo → not allowed for change port, and the default status is "Enabled".

Network Upgrade → not allowed for change port, the default status is "Enabled"

Telnet Connection → The default port is TCP 23, and change port is allowed. The default status is "Enabled".

HTTP Support → The default port is TCP 80, and change port is allowed. The default status is "Enabled".

SNMP Support → The default port is UDP 161, and change port is allowed. The default status is "Enabled".

4.4.3 Access Control

This page displays a list of the NMS stations enabled for read / write access to the inSentry IO 2400.

The screenshot shows the inSentry IO 2400 web interface. The left sidebar contains a menu with the following items: Monitor, Configuration, System, Network, Configuration, Control, Access Control (highlighted), and Logs. The main content area is titled "SNMP/HTTP Access Control" and displays an "Access Control Table". The table has four columns: Index, IP Address, Community String, and Access Type. It contains eight rows, all with IP Address "0.0.0.0" and Access Type "NotAccess". Below the table is a button labeled "Become Supervisor".

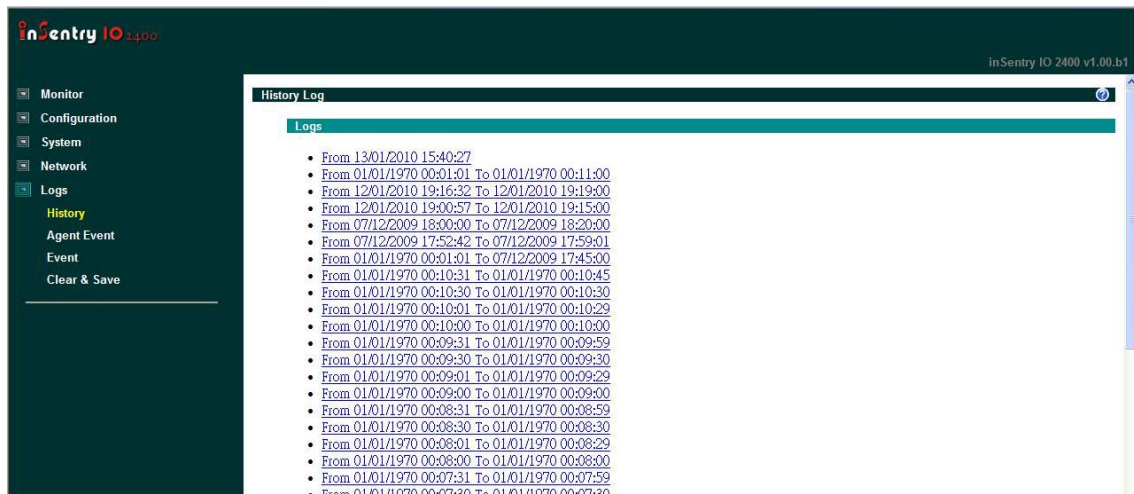
Index	IP Address	Community String	Access Type
1	0.0.0.0	*	NotAccess
2	0.0.0.0	*	NotAccess
3	0.0.0.0	*	NotAccess
4	0.0.0.0	*	NotAccess
5	0.0.0.0	*	NotAccess
6	0.0.0.0	*	NotAccess
7	0.0.0.0	*	NotAccess
8	0.0.0.0	*	NotAccess

Become Supervisor

4.5 Logs

There are four sub-menus, "History", "Agent Event", "Event" and "Clear & Save".

4.5.1 History



This page contains links of the history logs of inSentry IO 2400. Clicking on one of the link will show the history log page.

History Log																			
Log Date (mm/dd/yyyy)	Log Time (hh:mm:ss)	Digital Input								Analog Input				Digital Output				Modbus	
		1	2	3	4	5	6	7	8	1	2	3	4	1	2	3	4	Temperature	Humidity
01/11/2010	22:00:01	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0.00	0.00	0.00	0.00	Disabled	Disabled	Disabled	Disabled	0.0	0.0
01/11/2010	22:01:00	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0.00	0.00	0.00	0.00	Disabled	Disabled	Disabled	Disabled	0.0	0.0
01/11/2010	22:02:00	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0.00	0.00	0.00	0.00	Disabled	Disabled	Disabled	Disabled	0.0	0.0
01/11/2010	22:03:00	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0.00	0.00	0.00	0.00	Disabled	Disabled	Disabled	Disabled	0.0	0.0
01/11/2010	22:04:00	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0.00	0.00	0.00	0.00	Disabled	Disabled	Disabled	Disabled	0.0	0.0
01/11/2010	22:05:00	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	0.00	0.00	0.00	0.00	Disabled	Disabled	Disabled	Disabled	0.0	0.0

It includes the following basic information,

Log Date (dd/mm/yyyy)

Log Time (hh:mm:ss)

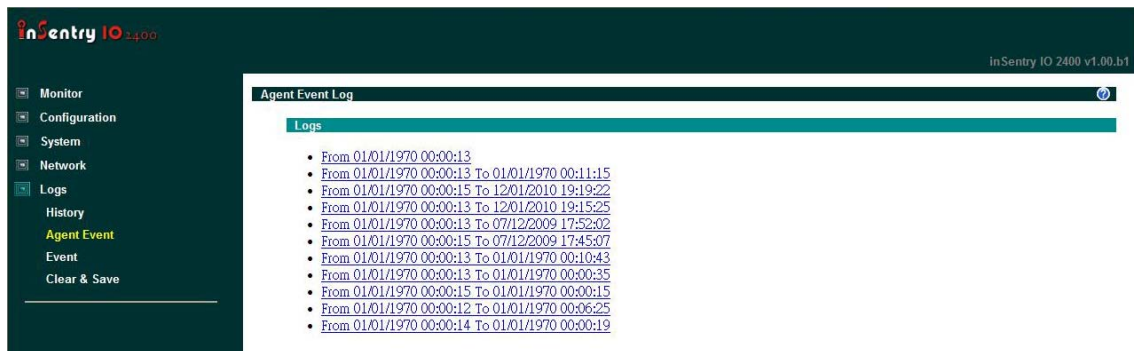
Status of Digital Input 1~8

Readings of Analog Input 1~4

Status of Digital Output 1~4

Readings of Modbus Temperature/Humidity sensor

4.5.2 Agent Event



This page contains links of event logs of the system. Clicking on one of the link will show the event log page.

Event Log		
Date(mm/dd/yyyy)	Time(hh:mm:ss)	Event Description
01/01/1970	00:00:13	Network link down
01/01/1970	00:00:14	Network link up
01/01/1970	00:00:15	inSentry IO 2400 Cold boot
01/07/2010	09:51:35	inSentry IO 2400 Time changed by server

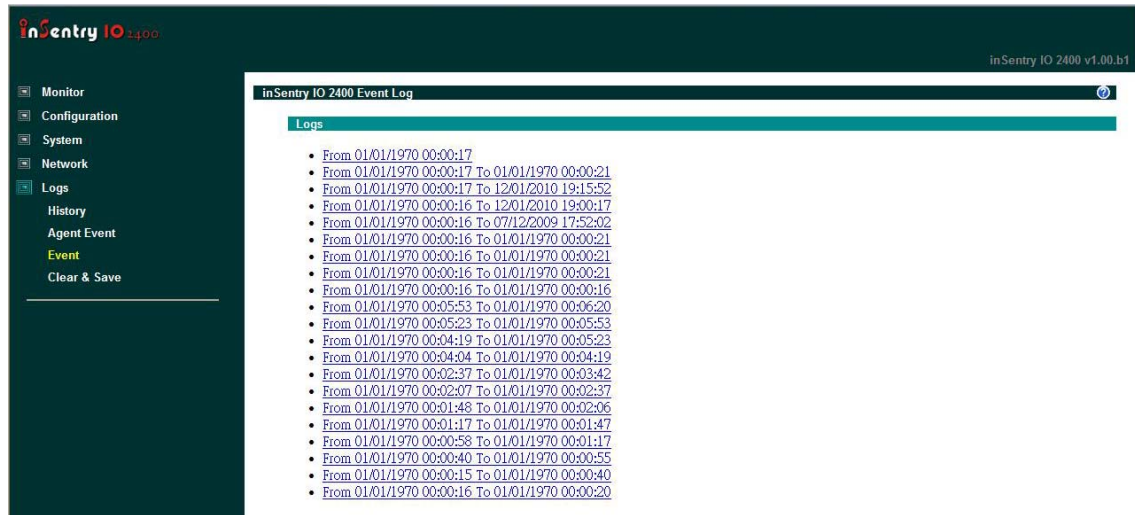
It includes the following information.

Date (mm/dd/yyyy)

Time (hh:mm:ss)

Event Description

4.5.3 Event



This page contains links of event logs of the devices which connected to inSentry IO 2400. Clicking on one of the link will show the event log page.

inSentry IO 2400 Event Log		
Date(mm/dd/yyyy)	Time(hh:mm:ss)	Event Description
01/01/1970	00:00:16	INFORMATION: The status of DI 1 returned to normal.
01/05/2010	12:21:04	SEVERE: The status of DI 2 activated.

It includes the following information.

Date (mm/dd/yyyy)

Time (hh:mm:ss)

Event Description

4.5.4 Clear & Save

There are two groups in this page, "Clear Log Data", and "Save Log Data". Configuration of this page is allowed when the security level is "Superuser" (Administrator).



➤ **Clear Log Data**

There are three check boxes which are able to let user select log which want to be cleared. Clicking on the "Clear" button will clear the selected log.

➤ **Save Log Data**

There are three links which are able to let user save log to local machine.

5. Appendix

5.1 Specifications

Models	inSentry IO 2400
Kernel	<ul style="list-style-type: none"> ➤ 16-Bits Fast Ethernet RISC Processor ➤ Memory: Flash ROM 2MB(1Mbit x16) / SDRAM 2MB (1Mbit x16) ➤ PHY: 10/100 PHY
Network	<ul style="list-style-type: none"> ➤ Auto-sense 10/100 Mbps Fast Ethernet ➤ RJ45 LAN Connector
Reset Button	➤ Reset to default (Hardware reset)
Dip Switch	➤ 2 sets of switch for operation mode control
Analog input	<ul style="list-style-type: none"> ➤ 4 sets of Analog input for DC voltage/current configurable sensor ➤ Measurement range: 0~15VDC/4-20mA ➤ Accuracy: $\pm 3\%$
Digital input	➤ 8 sets of Digital input (RS-232 level)
Digital Output	<ul style="list-style-type: none"> ➤ 4 sets of Digital output ➤ Max. 24VDC 1A
Serial Port	➤ 1-Port RS-485 (Terminal blocks connector)
Power Supply	<ul style="list-style-type: none"> ➤ Power adapter: Input: 100V ~ 240V / 50Hz ~ 60Hz Output: 12 volt unregulated
Power Consumption	➤ 15W (MAX)
LED Display	<ul style="list-style-type: none"> ➤ Power x1 (Green) ➤ Status x1 (Yellow) ➤ LAN 10M Link/Activity x1 (Green) ➤ LAN 100M Link/Activity x1 (Yellow)